Introduction: Employee attrition, also known as turnover, refers to the process of employees leaving an organization for various reasons such as dissatisfaction with their job or the company culture, retirement, or acceptance of another job offer. Employee attrition can be a significant cost to organizations, both in terms of financial loss from having to find and train replacements and the loss of institutional knowledge and experience.

Problem Statement: The IBM HR Analytics Employee Attrition dataset contains information on a variety of employee factors such as age, job satisfaction, and performance, as well as information on attrition, or whether or not an employee left the company. The problem is to predict which employees are most likely to leave the company based on these factors.

Motivation for the Solution: Predicting employee attrition is important for organizations to take proactive measures to reduce turnover and maintain a stable and productive workforce. By identifying employees at risk of leaving, organizations can take steps to address their concerns and retain valuable employees.

Methodology: The proposed solution will involve using the IBM HR Analytics Employee Attrition dataset to train a predictive model using machine learning algorithms such as logistic regression, decision trees, or random forests. The model will use the employee factors in the dataset to make predictions about which employees are most likely to leave the company. The model will be evaluated using metrics such as accuracy, precision, and recall, and the most effective model will be selected for use.

Technology to be Used: The following technology will be used to implement the employee attrition predictor:

1. Python programming language
2. Jupyter Notebook or another integrated development environment (IDE)
3. Pandas library for data manipulation and analysis
4. Matplotlib and Seaborn libraries for data visualization
5. Scikit-learn library for machine learning algorithms

References:

1. IBM HR Analytics Employee Attrition dataset on Kaggle (<https://www.kaggle.com/pavansubhasht/ibm-hr-analytics-attrition-dataset>)
2. Scikit-learn: Machine Learning in Python (<https://scikit-learn.org/stable/>)
3. Pandas: A fast, powerful, flexible, and easy-to-use open source data analysis and data manipulation library (<https://pandas.pydata.org/>)
4. Matplotlib: A plotting library for the Python programming language (<https://matplotlib.org/>)
5. Seaborn: A library for making statistical graphics in Python (<https://seaborn.pydata.org/>)

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